retrieved fluid can pass from the extraction chamber **511** into the draining chamber **54**. By using a duct that comprises of 3 adjacent holes with a diameter of 4 mm efficient draining of retrieved fluid samples with viscosities ranging between 1 and 20 cp can be routinely achieved.

[0097] Referring to FIG. **5***e*, an extraction chamber **521** is shown standing upright with a hinged lid **522** in an open position. The extraction chamber **521** is apposite for syringe type collection devices **524** using hypodermic needles **525**. The extraction chamber **521** contains a septum inlet **523**, whereby the rubberised membrane partitions the inside of the extraction chamber **521** from the outside. Sample fluid can be transferred from the syringe **524** into the extraction chamber by piercing the needle **525** through the septum inlet **523** and by injecting the sample fluid. The transferred sample fluid passes through duct **527** in the base of the septum inlet **523** into the draining chamber **44** of the cartridge **11**. Upon removal of the needle **525** the hinged lid **522** is moved into closed position.

[0098] Referring to FIG. **5***f*, an extraction chamber **531** is shown standing upright with a hinged lid **532** in an open position. The extraction chamber **531** is apposite for syringe type collection devices. The extraction chamber **531** contains a coned inlet **533** that matches the shape of the syringe's nozzle **535** to form a tight seal when the nozzle is inserted into the inlet. Sample fluid can be transferred from the syringe **534** into the extraction chamber by inserting the nozzle of the syringe into the coned inlet **533** and by injecting the sample fluid. The transferred sample fluid passes through duct **537** in the base of the coned inlet **533** into the draining chamber **44** of the cartridge **11**. Upon removal of the syringe **534** the hinged lid **532** is moved into closed position to seal of the inlet cavity.

[0099] Referring to FIG. **5***g*, an extraction chamber **541** is shown standing upright with a hinged lid **542** in an open position. The extraction chamber **541** is apposite for pipette type collection devices. The extraction chamber **541** contains a cylindrical inlet **543** that provides a vertical extension to the duct **547** in the base of the extraction chamber **541**. Sample fluid can be transferred from a pipette into the extraction chamber by inserting the pipette tip **544** into the inlet **543** and by injecting the sample fluid. The transferred sample fluid passes directly through the duct **547** in the base of the inlet **543** into the draining chamber **44** of the cartridge **11**. Upon removal of the pipette tip **544** the hinged lid **542** is moved into closed position to seal of the inlet cavity.

[0100] Referring to FIG. **5***h*, an extraction chamber **551** is shown standing upright with a hinged lid **552** in an open position. The extraction chamber **551** is apposite for connectorised tubings **554**, i.e. catheters, by providing a threaded inlet **553**. Sample fluid can be transferred from a tubing **554** into the extraction chamber **551** by inserting the threaded connector **555** into the inlet **553** and by injecting the sample fluid. The transferred sample fluid passes through duct **557** in the base of the inlet **553** into the draining chamber **44** of the cartridge **11**. Upon removal of the connector **555** the hinged lid **552** is moved into closed position to seal of the inlet cavity.

[0101] It is envisaged that a cartridge may have a combination of different inlet arrangements, for more versatility.

[0102] Referring to FIGS. **5***a* and **6***a*, the cartridge is shown upright in cross-sectional diagrams, with one diagram A detailing a cross-section along one channel **42** of the fluidic chip **26**, and one diagram B detailing a cross-section in between two channels **42** of the fluid chip **26**. Upon compression of a fluid-laden swab head **32** following closure of the hinged lid **24**, the retrieved fluid sample passes from the extraction chamber **23**, through the draining duct **53**, into the draining chamber **54** prior to entering into the distribution chamber **40** of the fluidic chip **26**. The draining chamber **54** conditions the fluid sample to facilitate providing uninterrupted, uniform sample flow into and through all of the channels **42** of the fluidic chip **26**. This conditioning process involves the segregation of bubbles and solid impurities from the fluid sample and also a quick and uniform distribution of sample across all channel inlets. This is achieved by means of a split level design that divides the draining chamber **54** into a major top reservoir **61** and minor bottom reservoir **62**.

[0103] The segregation of bubbles occurs inside the top reservoir **61** by allowing the bubbles to rise upwards and accumulate as foam at the top of the reservoir while, the fluid accumulates at the reservoir base. This action is assisted because there is a large volume in the top reservoir **61**. In various embodiments, the removal of solid impurities occurs in three stages during the process of sample transfer through the cartridge **11**. In the first instance the largest impurities are removed as the sample passes from the extraction chamber **23** through the draining duct **53** into the draining chamber's top reservoir **61**, with the size and shape of the draining duct **53** determining the size of impurities being withheld. The second removal of impurities takes place at the intersection of distribution chamber **40** and channels **42** of the fluidic chip **26**, with the dimensions and shape of the channel cross section determining the size of impurities being withheld. By selecting the width of the opening to be equal to that of the fluidic channel **42** and a combined depth of channel and bottom reservoir of between about 0.5 mm and about 1.5 mm, effective extraction and retention of solid impurities within the top reservoir **61** can be routinely achieved. The third and stage, removing more of the fine impurities is achieved through the reagent pads **43**, with the pads porosity determining the size of impurities being withheld.

[0104] The narrow profile of the bottom reservoir **62** facilitates conditioning of the fluid sample, and thus quick and even filling of the distribution chamber **40** of the fluidic chip **26**. The cross-sectional diagram B shows the distribution chamber **40** is shallow in the 3^{rd} direction but elongated in the 2^{nd} direction along the top of the channels **42** for effective spreading into the channels **42**. Quick spreading (in 1 to 2 sec) of the fluid across all of the channel inlet ports **41** results in timely, uniform filling of all of the fluidic channels **42** of the chip **26**. The dimensions of the bottom reservoir **62** may be a determinant of the overall effectiveness of the conditioning process and of the uniformity with which the filling of the fluidic channels **42** subsequently occurs. By selecting the width of the bottom reservoir **62** to be substantially equal to that of the fluidic chip **26**, the height to be substantially equal to the length of the sample inlet ports **41** of the chip **26** and the depth to be between about 0.25 mm and about 2 mm, uniform capillary filling of the fluidic channels **42** by conditioned, retrieved fluid samples with viscosities ranging between 1 and 20 cp can be routinely achieved.

[0105] Referring to FIG. **6***b*, a cartridge **600** is shown upright in perspective and cross-sectional diagrams, with one diagram A detailing a cross-section along one channel **607** of the fluidic chip **606**, and one diagram B detailing a cross-section in between two channels **607** of the fluid chip **606**. In this embodiment the fluidic chip **606**, an embodiment of the fluidic chip **26**, sits horizontally inside the cartridge **600**, with